(No Model.) 2 Sheets—Sheet 1.

J. BROOKS.

INKING APPARATUS FOR PRINTING PRESSES.

No. 280,127. Patented June 26, 1883.

Fig. 1.

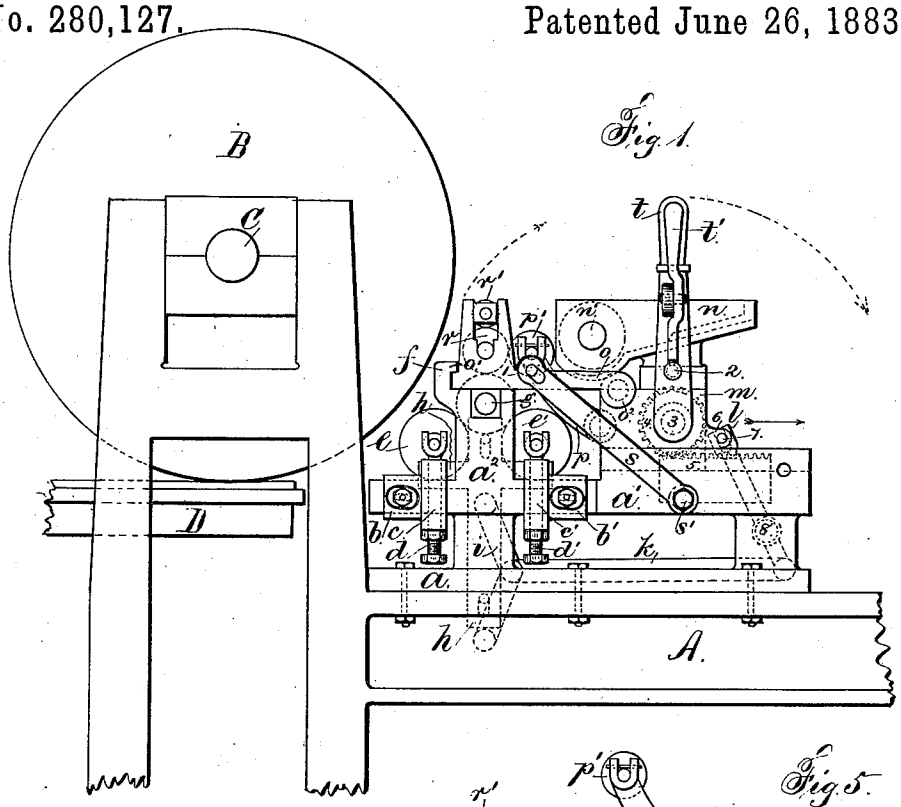


Fig. 5.

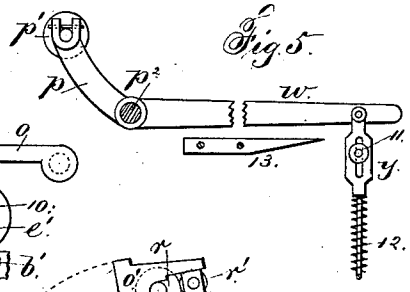


Fig. 4.

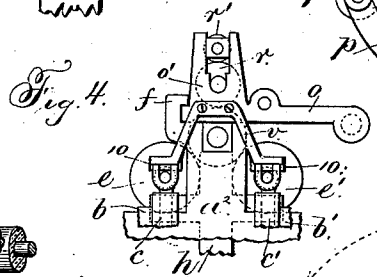


Fig. 3.

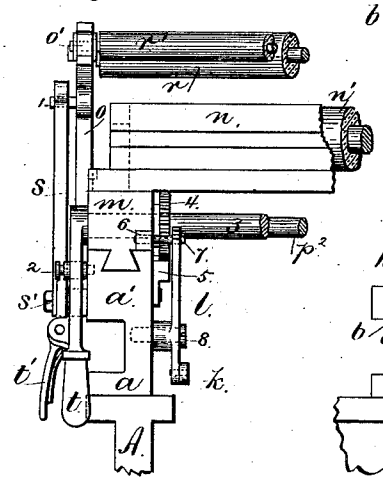
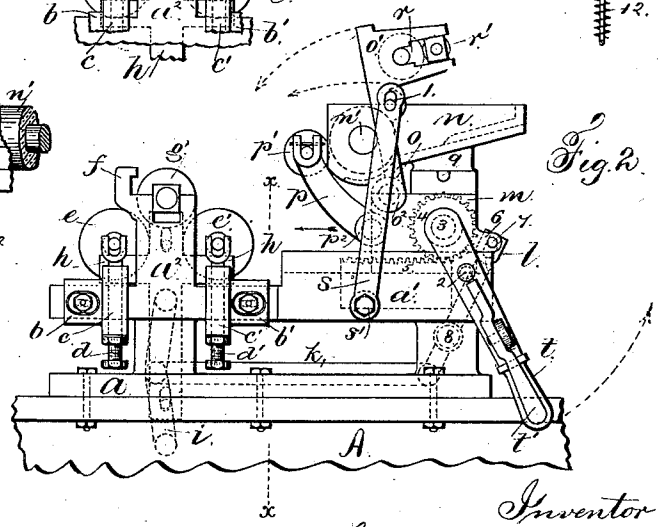


Fig. 2.



Witnesses
Harold Serrell
Chas. H. Smith

Inventor
per John Brooks
Lemuel W. Serrell atty

N. PETERS. Photo-Lithographer, Washington, D. C.

(No Model.) 2 Sheets—Sheet 2.

J. BROOKS.

INKING APPARATUS FOR PRINTING PRESSES.

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Fig. 9.

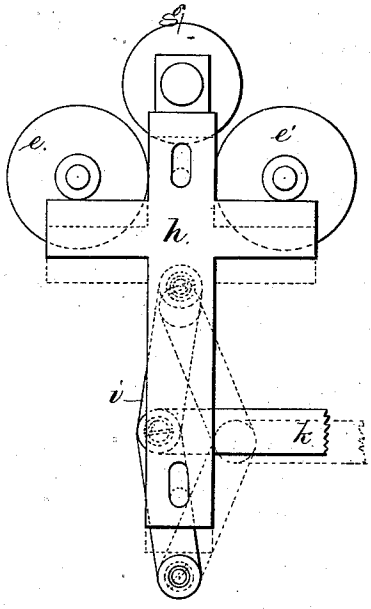


Fig. 8.

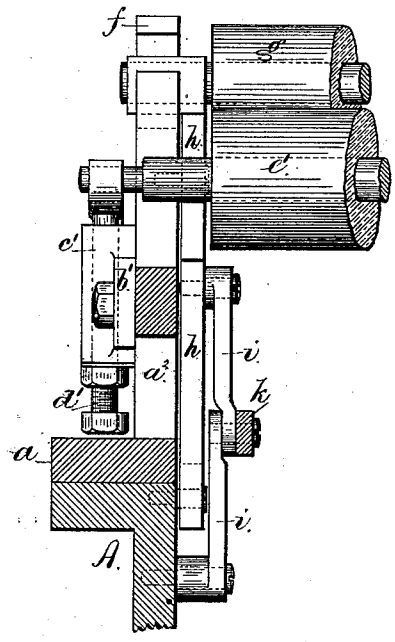


Fig. 7.

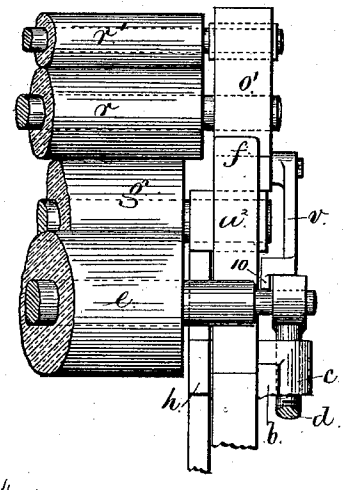
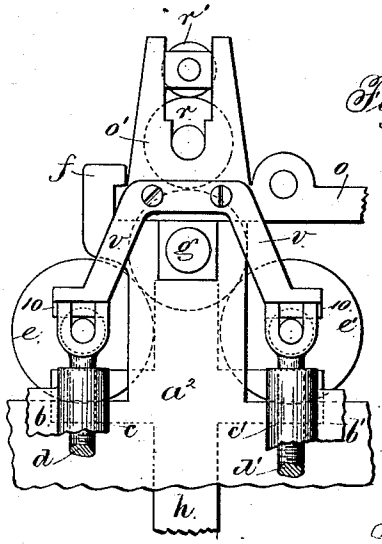


Fig. 6.



Witnesses

Harold Serrell

Chas H. Smith

Inventor

John Brooks

per Lemuel W. Serrell

Atty

N. PETERS, Photo-Lithographer, Washington, D. C.

UNITED STATES PATENT OFFICE.

JOHN BROOKS, OF PLAINFIELD, NEW JERSEY.

INKING APPARATUS FOR PRINTING-PRESSES.

SPECIFICATION forming part of Letters Patent No. 280,127, dated June 26, 1883.

Application filed June 12, 1882. (No model.)

To all whom it may concern:

Be it known that I, JOHN BROOKS, of Plainfield, in the county of Union and State of New Jersey, have invented a new and useful Improvement in Inking Apparatus for Printing-Presses; and the following is declared to be a correct description of the same.

In printing-presses the rollers used with the ink-fountain and the composition rollers used to distribute the ink and to spread the ink upon the types are all in contact during the operating of the press, and this is especially so in cylinder-presses. If by neglect any of these rollers are left in contact over night, their surfaces will become permanently flattened, thereby making them uneven and preventing their uniform action in inking, and necessitating recasting said composition rollers. Means have heretofore been devised to separate one or more of the rollers from each other or from contact with the types.

The object of my invention is to separate all of the distributing and composition rollers from contact with each other or the types, or the ink-roller in the fountain, and thereby prevent the surfaces of any of the composition rollers from becoming flattened; and to this end I provide devices for separating these rollers by one movement of a lever or handle in a quick, simple, and efficient manner, and for locking the parts in position both when in use and when separated.

In the drawings, Figure 1 is an elevation of my improved device endwise of the rollers, showing also a part of the frame of a printing-press, the parts being in position for use. Fig. 2 is an elevation of the parts with the rollers separated. Fig. 3 is a partial elevation of the rollers and frame at one end. Figs. 4 and 5 are detached views of separate parts. Fig. 6 is an elevation in larger size of the parts shown in Fig. 4. Fig. 7 is a side elevation of the same at one end of the rollers. Fig. 8 is a cross-section in larger size at the line *x x* of Fig. 2; and Fig. 9 is an elevation in larger size of the cross-shaped frame in its elevated position, with the rollers separated, and in its depressed position in dotted lines.

A is part of a frame of a printing-press, which may be of any usual construction; B, the impression-cylinder, and C the bearing for the same; and D represents part of the type-bed and types. I provide a frame consisting of the lower portion, *a*, and upper portion, *a'*, connected together. The lower portion, *a*, is bolted or otherwise fastened to the frame A of the machine.

As the parts hereinafter described are alike on both sides of the machine, it will only be necessary to describe one side.

There are adjustable frames *b b'* upon the frame *a'*, having tubular sockets *c c'*, for the adjusting screw-rods *d d'*, that carry the journals of the composition rollers *e e'*, and these composition rollers are the ones that ink the surface of the types. The frame *a'* above these roller-journals extends as a standard, a^2, and is slotted for the journal-box of the distributing-roller *g*. At one side of the standard a^2 there is a lock-jaw, *f*, for a purpose hereinafter described.

There is a frame, *h*, shaped like a cross and placed against the inner surfaces of the frame *a a'*, as shown in dotted lines, and this frame is supported by slides on the frame, and can be moved vertically by the toggles *i*, link *k*, and lever *l*, and is capable of raising the composition rollers *e e'* and the distributer *g* by acting against their respective journals or boxes. The upper end of the frame first acts against the journal-box of the roller *g*, raising it out of contact with the rollers *e e'*. Then these rollers *e e'* are lifted off or above the types. There is a frame, *m*, upon the frame *a'*, guided by and capable of sliding in a dove-tailed groove in its upper surface, and this frame *m* carries the ink-fountain *n* and ink-roller *n'*, and this fountain and roller pass across the entire width of the press.

Upon the frame *m* there is an arm, *o*, pivoted or connected, by a hinge-joint at o^2, to the same, and this arm *o* is provided with a jaw, *o'*, which receives the journal-box of the transfer and distributing rollers *r r'*, and there is an arm, *p*, upon a shaft, p^2, the journals of which pass into the frame *m*, and this arm *p* is forked to receive the journals of the composition transfer-roller or "doctor." There is a link, *s*, pivoted at *s'* upon the frame *a'*, and connected to the arm *o* by a pin, 1, in a slot at the end of the arm.

I provide a handle, *t*, spring-lever *t'*, and pin 2, which handle I secure to the shaft 3, which passes through the frame *m* and across the

press, and it has attached to it the pinions 4, which engage in the toothed racks 5, secured to the frame a', so that by turning the handle t the frame m, ink-trough, and connected parts will be rolled back and forth upon the frames a'.

The back of the frame m has a projection, 6, upon it and a pin, 7, and this pin 7 engages the U-shaped jaw at the end of the lever l, and this lever l is pivoted at 8 to the frame a'.

The parts as shown in Fig. 1 are in the position they occupy when the press is working, the handle t being up, the pin 2 caught in the notch 9 upon the frame m, and the jaw o' of the arm o locked into the jaw f of the standard a^2. It is to be understood that these parts, except the lever $t\,t'$, are duplicated at each end of the ink trough and rollers.

Whenever the press is stopped for a length of time, the rollers should be separated, and for that purpose the attendant grasps the handle t and compresses the spring-lever t', releasing the pin 2 from the slot 9. The handle t is now swung down, as indicated by dotted lines, Fig. 1. This movement revolves the pinions 4 upon the stationary racks 5, causing the frame m and parts carried by it to travel back to the position shown in Fig. 2. In this operation the arms o and jaws o' are first drawn back from the jaws f, the slots in the links s allowing for this movement, after which the links s act upon the arms o, and swing them and the rollers $r\,r'$ up above the ink-trough and away from the roller g. The pins 7 swing the levers l upon their centers 8, and through the links k straighten the toggles i, and lift the frame h and composition rollers $e\,e'$ and distributing-roller g to the position shown in Fig. 2. The composition rollers $e\,e'$ are lifted so that they will be clear of the types in case they are below the rollers, and the distributing-roller g is lifted a little more than the rollers $e\,e'$, so as to be separated from them. The handle t in the position shown in Fig. 2 is locked by the pin 2 entering a hole in the side of the frame a'. When the press is to be started again, and it is desired to bring the rollers together from their position shown in Fig. 2, the handle t is swung up to the position shown in Fig. 1, and the pinions 4, revolving against the stationary racks 5 on the inner sides of the frame a', cause the frame m to travel forward, carrying the links s, arms o, and jaws o' and rollers $r\,r'$ down into their proper relative position to the other parts, locking the jaws o' below the lock-jaw f on the standard a^2, and lowering the composition rollers $e\,e'$ and distributing-roller g into position and contact with one another. These operations are repeated as occasion may require.

The rollers r and r' may remain in contact when in the position shown in Fig. 2; but this is not detrimental, as the weight of one roller does not rest upon the other; hence there is no injury to the rollers.

In Figs. 4, 6, and 7, I have shown inverted U-shaped arms v, secured upon the arm o, and having projecting feet 10 resting upon the top of the journals of the rollers $e\,e'$. This is done to prevent said rollers $e\,e'$ riding out of their journal-boxes when the press is in operation.

The arms p, (shown in Fig. 5,) that carry the roller p', are secured on a shaft, p^2, in the frame m, and this shaft passes from one frame to the other of the press, and I provide an arm, w, to which is pivoted a slotted link, y, having a roller, 11, and spring 12. The spring 12 forces the arm w up, depressing the arm p and keeping the roller p' in contact with the roller r. Upon and near the end of the type-bed there is a wedge, 13, which in the reciprocation of said type-bed passes over the roller 11, depressing it and moving the arms w and p, and causing the doctor-roller p' to make a short contact with the ink-roller n', to receive from it fresh ink. The arm w is long, and the motion given to the roller p' is very slight.

I do not limit myself to the specific construction of the various parts for separating the ink-rollers from each other, as changes may be made in the mechanical details.

I claim as my invention—

1. In a printing-press, the frames $a\,a'$ and standard a^2, secured to the frame A of the press, in combination with the moving frame m, the handle, racks, and pinions for moving the same, and the links s, arms o, and jaws o', and mechanism, substantially as described, for simultaneously moving and raising the composition inking-rollers, substantially as set forth.

2. In a printing-press, the frames $a\,a'$ and standard a^2, in combination with the moving frame m, the ink-fountain n and ink-roller n', and the handle p, pinions 4, and racks 5, for moving said frame m and locking it in position, as and for the purposes set forth.

3. In a printing-press, the combination, with the inking-rollers, of the moving frame m, links s, arms o, and jaws o', and mechanism, substantially as described, for moving the same forward and backward and locking the parts in either position, substantially as set forth.

4. In a printing-press, the combination, with the composition inking-rollers $e\,e'$, distributing-roller g, the lifting cross-shaped frame h, toggles i, links k, and arms l, of mechanism, substantially as described, for imparting a forward and backward movement and separating the inking-rollers, for the purposes and substantially as set forth.

5. In a printing-press, the frames $a\,a'$ and standard a^2, having a lock-jaw, f, upon it, in combination with the lever o, jaw o', and inking-rollers g, r, and r', and means, substantially as described, for raising and lowering and imparting a forward and backward movement to said lever o, jaw o', and inking-rollers $r\,r'$, substantially as set forth.

6. In a printing-press, the composition inking-rollers $e\,e'$ and frames $b\,b'$, for carrying the same, in combination with the lever o, having jaws o' and inverted U-shaped arms v, resting upon the journals of the rollers $e\,e'$, for the purposes substantially as set forth.

7. In a printing-press, the combination of

the composition rollers *e e'*, distributing-roller *g*, supporting-frames *a a'*, and standard a^2, the cross-shaped lifter *h*, and actuating-toggles *i*, substantially as set forth.

8. In a printing-press, the combination of the composition rollers *e e'*, roller *g*, and their supporting-frames, the sliding frames *m*, carrying the ink-fountain, and the racks 5, pinions 4, cross-shaft 3, and handle *t*, for actuating the said frame, substantially as set forth.

9. In a printing-press, the combination of the composition rollers *e e'* and distributing-roller *g*, the sliding frame *m*, and means, substantially as described, for moving the same, ink-roller *n'*, and doctor-roller *p'* and roller *r*, substantially as set forth.

10. In a printing-press, the combination, with the sliding frame *m* and pinions, racks, cross-shaft, and handle for actuating the same, of links *s*, arms *o*, jaws *o'*, and rollers *r r'*, substantially as set forth.

11. The combination, with the ink-trough and the distributing and composition rollers, of mechanism, substantially as specified, for moving the ink-trough and separating the respective rollers by the movement of one handle, substantially as set forth.

Signed by me this 27th day of May, A. D. 1882.

JOHN BROOKS.

Witnesses:
GEO. T. PINCKNEY,
HAROLD SERRELL.